REDUCED-BUFFER ERROR DIFFUSION

Abstract of the Disclosure

5   An error diffusion method is provided where a plurality of n error values derived from processing one or more previous scanlines of input pixel values are sub-sampled without the n error values being stored in a buffer to derive m error values ($m < n$). In one example, a reduction factor R is used according to $m = n/R$. In another example, a two-dimensional reduction operation is performed.

10 The m error values, rather than the original n error values, are used as input for subsequent error diffusion operations. This allows for storage of m error values rather than n error values and, thus, error buffer requirements are reduced. Image quality has been found to be comparable to conventional error diffusion operations when the reduction factor used is maintained within reasonable limits.

15 The sub-sampling operation can be accomplished according to any suitable method. As described herein, either an averaging operation or a summation operation (with appropriate weight adjustments in the error diffusion operations) can be used to derive the m error values from the n original error values.